

## MCQ Base Clinical Pharmacology

Mechanism of drug action is explored by:

- A) pharmacokinetics
- B) pharmacogenetics
- C) pharmacoeconomics
- D) pharmacodynamics
- E) pharmacognosy

Therapeutic window is the dosages of a medication (therapeutic serum concentrations ) between:

- A)  $TD_{50}$  curve and  $ED_{50}$
- B)  $ED_{50}$  and  $T_{1/2}$
- C) the amount that gives an effect (effective dose) and the amount that gives more adverse effects than desired effects
- D) the amount that gives minimal adverse effects and the amount that gives more adverse effects
- E) the amount that gives minimal effect and the amount that gives full therapeutic effect

Therapeutic index is the ratio of:

- A)  $LD_{50}$  over the  $ED_{50}$
- B)  $ED_{50}$  over the  $LD_{50}$
- C) bioavailability over drug dose
- D) apparent volume of distribution over elimination rate constant
- E) total clearance over nonrenal (extrarenal) clearance

Therapeutic drug monitoring means:

- A) trough concentration under steady-state condition
- B) measurement of medication concentrations in blood
- C) the process of chemical alteration of drugs in the body
- D) amount of untoward effects following treatment
- E) development of expected desired effects

Therapeutic dose is not related to:

- A) patient's age
- B) rout of administration
- C) desired therapeutic effect
- D) organs of elimination
- E) treatment costs

Mean therapeutic doses mentioned in manuals is obtained by the following way:

- A) calculation of pharmacokinetic features
- B) clinical investigations
- C) experimental investigations
- D) experimental data adopted for human body

E) calculation of pharmacodynamic features

Find correct definition to presystemic metabolism (first pass metabolism).

- A) drug inactivation in the systemic circulation
- B) drug inactivation in kidneys
- C) drug inactivation in the liver after systemic circulation
- D) enzymatic cleavage in the gastrointestinal lumen, gut wall, by bacterial enzymes, and in the liver
- E) enzymatic cleavage in the gastrointestinal lumen

Advantages of parenteral route of administration does not include one of the following:

- A) rapid onset of action
- B) low risk of overdosing
- C) precise dosing
- D) absence of influence on gastrointestinal tract
- E) 100% bioavailability

Acetylsalicylic acid absorption is much faster when pH is:

- A) 2,0
- B) 3,0
- C) 3,5
- D) 4,5
- E) 1,5

Atropine absorption is much faster when pH is:

- A) 2,0
- B) 3,0
- C) 3,5
- D) 4,5
- E) 1,5

Distribution is the

- A. Process that defines the drug entrance into the systemic circulation from the site of administration or application
- B. Abstract concept, which determines where is a drug distributed
- C. Chemical processing of drugs before they will leave an organism
- D. Disposition of a drug throughout the body from the general circulation
- E. Elimination of drugs from the body

Volume of distribution is the

- A. Disposition of a drug throughout the body from the general circulation
- B. Elimination of drugs from the body
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Biotransformation is the

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- B. Elimination of drugs from the body
- C. Disposition of a drug throughout the body from the general circulation
- D. Abstract concept, which determines where is a drug distributed
- E. Chemical processing of drugs before they will leave an organism

Phase 1 of the biotransformation embraces

- A. Coupling between the prodrug metabolite with one of the several acids: glucuronic, sulphuric, acetic or amino acid.
- B. Modification of the drug molecule into endogenous substances
- C. Gastrointestinal tract, kidneys and other tissues
- D. Conversion of the prodrug substance to a more polar metabolite
- E. Chemical processing of drugs before they will leave an organism

Phase 2 of the biotransformation embraces

- A. Coupling between the prodrug metabolite with one of the several acids: glucuronic, sulphuric, acetic or amino acid.
- B. Conversion of the prodrug substance to a more polar metabolite
- C. Activity of cytochrome P-450
- D. Oxidation process and to a lesser extent reduction or hydrolysis
- E. Microsomal and nonmicrosomal metabolising systems

Which characteristic is correct relatively to impaired renal function?

- A. Decrement of drug concentration in blood
- B. Increased elimination of drugs
- C. Decreased clearance of drugs
- D. Enhance in protein binding capacity
- E. Fewer doses should be avoided

The subjects of pharmacokinetics are all except:

- A. Route of administration of the drug.
- B. Biotransformation of active substance.
- C. Distribution of active substance within the organism.
- D. Binding of the active substance with plasma albumins.
- E. Adverse effects of the drug.

Which of the following is not the subject for pharmacodynamics?

- A. Mechanism of action.
- B. Duration of effect.
- C. Adverse effects.
- D. Phases of metabolism.
- E. Affinity.

After administration of the drug following reactions could be observed except:

- A. Therapeutic action.
- B. Idiosyncrasy.
- C. Tolerance.
- D. Tachyphylaxis.
- E. Reabsorption.

The duration of therapeutic effect depends on:

- A. Route of administration.
- B. Frequency of administration.
- C. Form of the drug.
- D. Elimination route.
- E. No correct answer.

After what half-lives steady-state concentration of drug is achieved?

- A) 1-2  $T_{1/2}$
- B) 3-5  $T_{1/2}$
- C) 6-8  $T_{1/2}$
- D) 9-11  $T_{1/2}$
- E) 12-24  $T_{1/2}$

How do you understand elimination rate constant?

- A) amount of drug, disposed in urine per day
- B) amount of drug, disposed in feces per day
- C) it is equivalent to the fraction of a substance that is removed per unit time measured at any particular instant
- D) twofold reduction in drug concentration per day
- E) twofold reduction in drug concentration during 12 hours

Risk of adverse effects is low in the following cases:

- A) long-term of drug use
- B) impairment of organs where biotransformation takes place
- C) elderly patients
- D) simultaneous use of less than 4 drugs
- E) simultaneous use of drugs with the same adverse reactions

Pharmacokinetic interactions include one of the following:

- A) drug action on receptors
- B) enhancement of pharmacologic effect
- C) attenuation of pharmacological effects
- D) alteration of drug concentration of one drug by the prior or concurrent administration of another
- E) influence of drug on another one following the same route of administration

Name methods used to evaluate drug safety and effectiveness:

- A) laboratory studies

- b) imaging technology
- C) physical examination
- D) recording patient symptoms
- E) all of the above

One of the following drugs inhibits tetracycline absorption.

- A) sodium bicarbonate
- B) calcium-containing drugs
- C) potassium-containing medicines
- D) phosphorus-containing compounds
- E) magnesium-containing drugs

Which drug induces cytochrome P450 in the liver?

- A) probenecid
- B) epinephrine
- C) norepinephrine
- D) phenobarbital
- E) dopamine

Which drug induces bilirubin biotransformation?

- A) serotonin
- B) epinephrine
- C) norepinephrine
- D) phenobarbital
- E) dopamine

Cholestyramine decreases absorption of:

- A) clindamycin
- B) potassium-containing medicines
- C) sodium bicarbonate
- D) magnesium-containing drugs
- E) phosphorus-containing compounds

Enzyme activity may be induced by one of the following drugs.

- A) serotonin
- B) epinephrine
- C) norepinephrine
- D) griseofulvin
- E) dopamine

In emergency states we should take into account one of the following:

- A) changes in drug absorption time
- B) changes in drug absorption amount
- C) blood pH
- D) gastric pH
- E) urine pH

Prednisolone binds with one of the following proteins:

- A) globulin
- B) albumin
- C) fibrinogen
- D) prealbumin
- E) prothrombin

One of the given below enhances glucocorticoid metabolism.

- A) serotonin
- B) epinephrine
- C) norepinephrine
- D) diphenin
- E) dopamine

One of the given below enhances thyroxine metabolism.

- A) serotonin
- B) epinephrine
- C) norepinephrine
- D) diphenin
- E) dopamine

One of the given below increases blood concentration of acetylcholine.

- A) serotonin
- B) epinephrine
- C) norepinephrine
- D) proserin
- E) dopamine

Pharmacological agents are used in therapeutics to

- A. Kill agents caused inflammatory, etc.
- B. Cure disease
- C. Aggravate symptoms
- D. Eliminate pathogenetic factors
- E. Stimulate or inhibit hormone production

What drug's action do you know?

- A. Action on DNA
- B. Action on cells
- C. Action on specific receptor
- D. Action on viruses
- E. Action on mediators

Bioavailability is the

- A. Proportion of administered drug that reaches the systemic circulation in unchanged form

- B. Bioavailability is the kind of susceptibility of body tissues to the given drug
- C. Proportion of administered drug that reaches the systemic circulation
- D. Proportion of administered drug that reaches the systemic circulation in changed form
- E. Ability of administered drug to reach its target of action

First-pass metabolism is

- A. Metabolism which takes place in the liver
- B. Metabolism which takes place in the gastrointestinal tract
- C. The metabolism of a drug that occurs en route from the gut lumen to the systemic circulation
- D. Renal metabolism
- E. The metabolism of a drug that occurs in the systemic circulation

Choose the pharmacological group, which produces action on ion channels

- A. Antiarrhythmic drugs
- B. Beta<sub>2</sub>-adrenoreceptor blockers
- C. Sulfonamides
- D. Antipsychotic drugs
- E. Biguanides

1. Which characteristic is correct relatively to impaired renal function?

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The ratio of quantity of drug reaching systemic blood flow and total amount of introduced drug in different forms, or manufactured by different producers is referred to as:

- A. Pharmacokinetics.
- B. Pharmacodynamics.
- C. Pharmacoeconomics.
- D. Bioavailability.
- E. Bioequivalence.

The main groups of hypolipidemic drugs are all except of:

- A. Statins.
- B. Fibrates.
- C. Barbiturates.
- D. Bile acids sequestrants.
- E. Niacine and its derivatives.

Statins are all drugs except of:

- A. Lovastatine.
- B. Simvastatine.
- C. Atorvastatine.
- D. Somatostatine.
- E. Pravastatine.

The main route of nicotinic acid elimination (about 88% of the dose) is:

- A. Kidney excretion.
- B. Liver elimination.
- C. Sweat glands.
- D. Breast milk.
- E. Salivary glands.

... drugs increase activity of lipoprotein-lipases, promote catabolism as well as decrease the synthesis of LDL, increase excretion of cholesterol with bile (which group?).

- A. Statins.
- B. Fibrates.
- C. Barbiturates.
- D. Sequestrants of bile acids.
- E. Niacine.

To the polar cardiac glycosides belong



- A. Strophanthin, digoxin
- B. Isolanidum, digoxin
- C. Methyldigoxin, acetyldigoxin
- D. Strophanthin, corglicone
- E. Digitoxin, dioxin

To the non-polar cardiac glycosides belong all except

- A. Strophanthin, digoxin
- B. Isolanidum, digoxin
- C. Methyldigoxin, acetyldigoxin
- D. Strophanthin, corglicone
- E. Digitoxin, dioxin

Contraindications to prescribing cardiac glycosides are all except

- A. Severe inflammatory and dystrophic myocardial changes with the rhythm disorder
- B. Progressing atrio-ventricular block
- C. Ventricular paroxysmal tachycardia
- D. Strong bradycardia
- E. Acute and chronic heart failure

Indications to prescribing cardiac glycosides:

- A. Severe inflammatory and dystrophic myocardial changes with the rhythm disorder
- B. Progressing atrio-ventricular block
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- D. Strong bradycardia
- E. Acute and chronic heart failure

Indications to prescribing cardiac glycosides

- A. Severe inflammatory and dystrophic myocardial changes with the rhythm disorder
- B. Progressing atrio-ventricular block
- C. Ventricular paroxysmal tachycardia
- D. Strong bradycardia
- E. Atrial flutter

There are such periods in treatment with cardiac glycosides:

- A. The period of exhaustion and the period of digitalis saturation
- B. The period of digitalization and the period of supportive therapy
- C. Acute and chronic digitalis periods
- D. The period of digitalis saturation and the period of adaptive therapy
- E. The periods of digitalis cumulation and withdrawal from the body

It is characteristic of cardiac glycosides

- A. High therapeutic index
- B. Low therapeutic index
- C. Low cumulation ability
- D. The ability of quick withdrawal with the help of plasmapheresis
- E. Practically do not bind with blood protein

To the symptoms of digitalis intoxication belong all except

- A. Atrio-ventricular block
- B. Anorexia
- C. Perception of things in yellow and green shades of colour
- D. Maniac depressive syndrome
- E. Hypertonic crisis

To Beta-1-adrenomimetics belongs

- A. Isodibut
- B. Amrinone
- C. Dobutamine
- D. Oxprenolol
- E. Dioxin

To inhibitors of phosphodiesterase belongs

- A. Isodibut
- B. Amrinone
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$\beta$ -adrenoblockators fall into the following groups except

- A. Blockators of  $\beta_1$ - and  $\beta_2$ -adrenoreceptors
- B. Selective blockators of  $\beta_1$ - adrenoreceptors
- C. Combined blockators of  $\beta$ - and  $\alpha$ -adrenoreceptors
- D. Blockators of  $\alpha_1$ - and  $\alpha_2$ -adrenoreceptors
- E. Not connected with blocking of adrenoreceptors

$\beta$ -adrenoblockators have the following peculiarities except

- A. Negative inotropic effect
- B. Negative chronotropic effect
- C. Negative bathmotropic effect
- D. Positive inotropic effect
- E. Negative dromotropic effect

Which effect is not characteristic of  $\beta$ -adrenoblockators?

- A. Lowering arterial pressure
- B. Blocking of  $\beta$ - adrenoreceptors in the vessels inhibits vasodilatation
- C. Relative increase of  $\alpha$ - adrenoreceptors in vessels
- D. Increased lipolys
- E. Development of Raynaud's syndrome

Which statement is false for  $\beta$ -adrenoblockators?

- A. Lower insulin emission from the  $\beta$ -cells of islets of Langerhans

- B. Depress the gluconeogenesis in liver
- C. Lower lipolys
- D. May lead to the development of hyperglycemic coma
- E. Activate glycogenolysis in liver

Diltiazem belongs to the group of derivatives from:

- A. Dihydropyridin
- B. Fenilalkilamin
- C. Benzodiazepine
- D. Benzoic acid
- E. Phenylalanine

Selective blockators of calcium channels work according to the following mechanism:

- A. Block T (transient)-channels and L (long lasting)-channels
- B. Block L (long lasting)-channels
- C. Block small calcium channels
- D. Block T (transient)-channels
- E. Block all possible calcium channels

Non-selective blockators of calcium channels work according to the following mechanism:

- A. Block T (transient)-channels
- B. Block small calcium channels
- C. Block T (transient)-channels and L (long lasting)-channels
- D. Block L (long lasting)-channels
- E. Block all possible calcium channels

Which of the following medicines decreases the frequency of heart contractions most?

- A. Isradipine
- B. Nifedipine
- C. Nitrendipine
- D. Amlodipine
- E. Verapamil

Which of the following medicines decreases the frequency of heart contractions most?

- A. Isradipine
- B. Diltiazem
- C. Nifedipine
- D. Nitrendipine
- E. Amlodipine

Which of the following medicines may increase the frequency of heart contractions?

- A. Isradipine
- B. Diltiazem
- C. Nifedipine
- D. Nitrendipine
- E. Amlodipine

Which of the following medicines blocks calcium channels in the blood vessels of the brain most?

- A. Amlodipine
- B. Verapamil
- C. Diltiazem
- D. Cinnarizine
- E. Nitrendipine

Which of the following medicines are not used to influence calcium channels in the blood vessels of the brain?

- A. Cinnarizine
- B. Flunarizin
- C. Nicardipine
- D. Nimodipine
- E. Diltiazem

Which toxic effect after prescribing Dihydropyridin derivatives is most likely?

- A. Diarrhea
- B. Arterial hypertension
- C. Hypoglykemia
- D. Swelling
- E. Hypothermia

The choice of the dosage of calcium channel blockator is made the following way:

- A. The treatment should be started and carried out with an average therapeutic dosage recommended for the illness
- B. Gradually from less to more effective
- C. From double therapeutic dosage during the first three days with the following decrease of the dosage to the average therapeutic
- D. Initial loading dose should last not less than a week
- E. The frequency of medicine use is gradually increased during the day

Name pharmacological effect which is typical for calcium channel blockers

- A) decline of automaticity in pacemaker cells
- B) increase platelet aggregation
- C) increase smooth muscle tone in brain vessels
- D) increase myocardial contractility
- E) promote oxyhemoglobin dissociation

One of the following side effects occurs fore often than others regarding use of calcium channel blockers.

- A) cardiac failure
- B) parkinsonism
- C) headache
- D) constipation

E) bigeminy or trigeminy

One of the following condition does not require usage of calcium channel blockers.

- A) essential hypertension
- B) hypertensive crisis with paroxysmal supraventricular tachycardia
- C) Prinzmetal's angina
- D) alleviation of stuttering
- E) ventricular tachyarrhythmia

What duration of action of azamethonium bromide following IV administration?

- A) 20-30 min
- B) 1-2 hours
- C) 2-4 hours
- D) 5-6 hours
- E) 10-12 hours

Single dose of hexamethonium benzosulfonate in mg equal to:

- A) 1-2
- B) 6-75
- C) 8-40
- D) 15-90
- E) 100-200

Choose the absolute contraindication for ganglioblockers.

- A) glaucoma
- B) pheochromocytoma
- C) hypotension
- D) advanced liver failure
- E) thrombosis

Choose the relative contraindication for ganglioblockers.

- A) glaucoma
- B) sleeplessness
- C) advanced liver failure
- D) Severe cerebral atherosclerosis with coronary
- E) subarachnoid hemorrhage

Duration of action of reserpine equal to:

- A) 1-2 hours
- B) 2-4 days
- C) 2-4 weeks
- D) 5-6 weeks
- E) more than 6 weeks

All drugs, given below are  $\alpha$ -adrenoblockers, except:

- A) teratozin

- B) tamsulosin
- C) phentolaminum
- D) reserpine
- E) alfuzosin

In what case we should not use glucagon?

- A) congestive heart failure with severe bradycardia
- B) heart failure, atrioventricular heart block, ventricular fibrillation
- C) intoxication following taking  $\beta$ -adrenolytics or calcium channel blockers
- D) severe hyperglycemia
- E) postoperative and perioperative rise in cardiac output

Choose the rate of dopamine infusion

- A) less than 1  $\mu$ /kg/min
- B) 1-2  $\mu$ /kg/min
- C) 3-5  $\mu$ /kg/min
- D) 8-10  $\mu$ /kg/min
- E) more than 10  $\mu$ /kg/min

Administration of dopamine should be tapered quickly if at the same time patient uses:

- A) Nitroprusside Sodium
- B) dobutamine
- C) nialamide
- D) nitroglycerine
- E) almagel A (algedrate + benzocaine + magnesium hydroxide)

Dopamine should not be used in the case when patient has:

- A) lung edema
- B) cardiogenic shock and hypovolemic shock
- C) lesser circuit hypertension in newborn
- D) traumatic shock, septic shock
- E) aortic stenosis, cardiac tamponade

What statement is not correct relatively to dopamine mimetics?

- A) dobutamine stimulates  $\beta_1$ -adrenergic receptors and dopamine receptors
- B) dobutamine is available only for parenteral administration 1-2  $\mu$ /kg/min
- C) dobutamine is a [sympathomimetic drug](#) used in the treatment of [heart failure](#) and [cardiogenic shock](#)
- D) ibopamine is a [sympathomimetic](#) used in [ophthalmology](#) (it induces [mydriasis](#)) and some times in the treatment of [congestive heart failure](#)
- E) dopexamine, a dopamine analog developed for IV use in the treatment of heart failure and low cardiac output states

What statement is not correct regarding  $\alpha$ -adrenoblockers?

A) proroxan has been used as an antihypertensive and in the treatment of Meniere's disease, motion sickness, and allergic dermatitis

B) side effects of prazosin do not include [orthostatic hypotension](#), [syncope](#), and [nasal congestion](#)

C) the primary application for phentolamine is for the control of [hypertensive emergencies](#), most notably due to [pheochromocytoma](#)

D) labetalol and carvedilol block  $\alpha$  and  $\beta$  adrenergic receptors

E) cadralazine is an [antihypertensive](#) of the [hydrazinophthalazine chemical class](#)

What drug is not included in the group of K<sup>+</sup>ATP channel agonists?

A) minoxidil

B) nicorandil

C) pinacidil

D) ribomunyl

E) cromakalim

Choose incorrect effect for clonidine.

A) smooth muscle relaxation

B) sedative

C) increase cardiac output and heart rate

D) somniferous

E) pain relieving

Reserpine may be combined with:

A) cardiac glycosides

B) tricyclic antidepressants

C)  $\beta$ -adrenolytics

D) diuretics

E) clonidine-like compounds

Find side effect for reserpine.

A) extrapyramidal disorder

B) tachycardia

C) inhibition of unconditioned reflexes (sucking, swallowing) and breathing in newborn

D) decreased libido

E) hyperacid gastritis

Adverse effects of epinephrine include all of the given below, except:

A) trembling

B) dyspnea

C) redness of face

D) sweating



E) hypotension

Single IV dose of phenylephrine hydrochloride equal to:

- A) 1-5 mg
- B) 5-10 mg
- C) 15-20 mg
- D) 20-25 mg
- E) 50-100 mg

Single intramuscularly dose of etafedrine equal to:

- A) 1-2 mg
- B) 2-5 mg
- C) 7-10 mg
- D) 10-12 mg
- E) 15-20 mg

Maximum dose of midodrine equal to:

- A) 5 mg
- B) 10 mg
- C) 12 mg
- D) 30 mg
- E) 100 g

What triggers withdrawal of theophylline from the human body?

- A. Hyperthyreosis
- B. Taking the medicine in the morning
- C. Cor pulmonale
- D. Liver cirrhosis
- E. Smoking

Which antibiotics group enhances the increase of theophylline concentration in blood?

- A. Fluoroquinolones
- B. Linkozamides
- C. Penicillins
- D. Rifampicinum
- E. Cephalosporins

All groups of medicines enhance the increase of theophylline concentration in blood except:

- A. H<sub>2</sub>-histamineblockastors
- B. Barbituric acid derivatives
- C. Macrolides
- D. Fluoroquinolones
- E.  $\beta$ -adrenoblockators

All groups of medicines enhance the decrease of theophylline concentration in blood except:

- A. Barbituric acid derivatives
- B. Isoniazid
- C. Peroral contraceptives
- D. Linkozamides
- E. Macrolides

Choose the mechanism, which does not take part in broncholytic action of theophylline:

- A. Activates the contraction of smooth muscle cells of the respiratory tract
- B. Activates histamine release from the lung cells
- C. Inhibits catecholamine release from the nerve endings
- D. Blocks the adenosine receptors of the cells
- E. Inhibits the release of inflammation mediators

Clinical effects caused by inhibitors of phosphodiesterase are displayed in all cases except:

- A. Stimulated breathing centre
- B. Liver tract dilatation
- C. Decrease of the force and frequency of heart contractions
- D. Diuretic effect stimulation
- E. Bronchospasm decrease

During which disease the use of inhalation forms of M-cholinobacters is most effective?

- A. Chronic obstructive bronchitis
- B. Pneumosclerosis
- C. Bronchial asthma
- D. Lung emphysema
- E. Bronchoectatic disease

Bioaccessibility of Ipratropium bromide during inhalation makes up:

- A. 10%
- B. 20%
- C. 30 %
- D. 80%
- E. 100%

To stop the bronchial asthma attack the medicine, which should be used is:

- A. Orciprenaline
- B. Salmeterol
- C. Formoterol
- D. Terbutaline
- E. Salbutamol

For stopping infrequent attacks of bronchospasm of any genesis usually are prescribed:

- A.  $\alpha$ - and  $\beta$ -adrenostimulators
- B. Nonselective  $\beta$ -adrenostimulators

- C. Selective adrenostimulators of short term action
- D. Selective adrenostimulators of long term action
- E. M-cholinobacters

Which medicine has sedative and antigistamine effect?

- A. Cromoglocic acid
- B. Cromolyn sodium
- C. Nedocromil sodium
- D. Chloropyramine
- E. Fexofenadine hydrochloride

Choose the medicine of the adrenomimetics group, which is not selective:

- A. Salbutamol
- B. Fenoterol
- C. Orciprenaline
- D. Terbutaline
- E. Formoterol

All the following sympatomimetics have prolonged action except:

- A. Orciprenaline
- B. Clenbuterol hydrochloride
- C. Salmeterol
- D. Formoterol
- E. None of the mentioned

Choose the beginning of Sulbutamol effect in inhalations:

- A. During the first minute
- B. During the second minute
- C. During the third minute
- D. During the 4<sup>th</sup>-5<sup>th</sup> minutes
- E. During the 10<sup>th</sup> minute

At which concentration of theophylline in blood may coma develop?

- A. 10 mg/l
- B. 20 mg/l
- C. 30 mg/l
- D. 40 mg/l
- E. 50 mg/l

Which is the pharmacokinetics peculiarity of theophylline in newly born?

- A. Fermentative oxidation is decreased
- B. The speed of elimination is decreased
- C. Fermentative oxidation is increased
- D. Elimination is increased
- E. Fermentative oxidation and elimination speed are decreased

The insulin that does not have a peak of action is:

- A. Glulisin (Apidra)
- B. Glargine (Lantus)
- C. Isophane (Protaphane)
- D. Biphasic Insulin N 70/30
- E. Aspart (Novolog)

Insulin formulation that has a very fast onset of action is:

- A. Glargine (Lantus)
- B. Soluble human (Humodar)
- C. Lispro (Humalog)
- D. Human Isophane (Фармасулін HNP)
- E. Detemir (Levemir)

Oral hypoglycemic agents include all of the following, except:

- A. Sulfonylureas
- B. Biguanides
- C. Phosphodiesterase inhibitors
- D. Thiazolidinediones
- E. Alpha-glucosidase inhibitors

Which side effects are not commonly seen with sulfonylureas?

- A. Hypoglycemia
- B. Headache
- C. Dizziness
- D. Diaphoresis
- E. Gastrointestinal disturbances

Sulfonylureas are contraindicated in all of the following patients, except:

- A. Patients with type I diabetes mellitus
- B. Patients with renal insufficiency
- C. Patients with liver disease
- D. Pregnant patients
- E. Patients with arterial hypertension

Metformin is contraindicated in all of the following situations, except:

- A. Increased BMI
- B. Tendency to develop lactic acidosis
- C. Diarrhea and other gastrointestinal disturbances
- D. Pregnancy
- E. Breast feeding

All of the following are indications for acarbose use, except:

- A. Monotherapy for type II diabetes
- B. Monotherapy for type I diabetes

- C. Combination therapy with insulin for type I diabetes
- D. Combination therapy with glimepiride for type II diabetes
- E. Combination therapy with insulin for type II diabetes

All of the following qualities apply to nateglinide, except:

- A. Short half-life
- B. Minimal risk for developing hypoglycemia
- C. Metabolized by liver
- D. Restores early insulin secretion
- E. Excreted by kidneys

One of the indications for prescribing nateglinide is:

- A. Depletion of pancreatic beta-cells
- B. Significant postprandial hyperglycemia
- C. Tendency to develop lactic acidosis
- D. Resistance to sulfonylureas
- E. Insulin resistance

Thyroid hormones have all of the following qualities, except:

- A. They activate synthesis of RNA and amino acids
- B. They increase basal metabolism
- C. They inhibit erythropoiesis
- D. They increase heat production
- E. They stimulate insulin breakdown

Thyroid hormones have all of the following qualities, except:

- A. They stimulate gluconeogenesis
- B. They activate central respiratory center
- C. They inhibit pituitary TSH (thyroid stimulating hormone) synthesis
- D. They inhibit gluconeogenesis
- E. They increase basal metabolism

All of the following are side effects associated with thyroid hormone use, except:

- A. Heat intolerance
- B. Weight gain
- C. Hyperhidrosis
- D. Irritability
- E. Insomnia

All of the following are side effects associated with thyroid hormone use, except:

- A. Weight loss
- B. Tachycardia
- C. Decreased tendon reflexes
- D. Diarrhea
- E. Tachyarrhythmia

Thyroid medications are contraindicated in all of the following circumstances, except:

- A. Chronic heart failure
- B. Untreated hyperthyroidism
- C. Untreated adrenal insufficiency
- D. Acute coronary syndrome
- E. Decompensated tachyarrhythmia

Thyroid hormone doses should be increased when used concurrently with:

- A. Estrogens
- B. Clofibrate
- C. 5-methylflourouracil
- D. Androgens
- E. Tamoxifen

All of the following are true about anti-thyroid medications, except:

- A. They inhibit iodine transport into a follicle
- B. They alter thyroid hormone synthesis
- C. They inhibit release of thyroid hormones
- D. They activate synthesis of thyroid peroxidase
- E. They destroy thyroid gland follicles

All of the following are side effects associated with *thionamide use*, except:

- A. Arterial hypertension
- B. Agranulocytosis
- C. Nausea
- D. Arthralgia
- E. Toxic hepatitis

Which of the following electrolyte/fluid regulation abnormalities is not seen with glucocorticoid use?

- A. Sodium retention
- B. Fluid retention
- C. Arterial hypertension
- D. Heart failure
- E. Potassium retention

Which of the gastrointestinal side effects is not usually seen with glucocorticoid use?

- A. Peptic ulcer disease
- B. Gastrointestinal bleeding
- C. Hemorrhoids
- D. Pancreatitis
- E. Abdominal bloating

Which of the musculoskeletal side effects is not usually seen with glucocorticoid use?

- A. Muscle weakness
- B. Increase in muscle mass

- C. Osteoporosis
- D. Pathologic fractures of long bones
- E. Spine compression fractures

Which of the following is not true with respect to glucocorticoid use?

- A. They augment actions of anticoagulants
- B. They augment actions of antiplatelet agents
- C. They augment actions of hypoglycemic agents
- D. They decrease efficacy of hypoglycemic agents
- E. They increase side effects associated with anabolic steroids use.

All of the following doses of iodine containing agents are used to prevent iodine deficiency in the following patients, except:

- A. Breastfeeding mothers 200 mcg/24 hours
- B. Pregnant women 200 mcg/24 hours
- C. Teenagers and adults 100-200 mcg/24 hours
- D. Children 50-100 mcg/24 hours
- E. People with intellectual work 300 mcg/24 hours

When glucocorticoids are prescribed using “twice a day” dosing, the doses should be divided in the following manner:

- A. Half in the morning and half in the evening
- B. Two thirds in the morning and one third in the afternoon
- C. One third in the morning and two thirds in the evening
- D. Half in the morning and half in the afternoon
- E. One third in the afternoon and two thirds in the evening

You have just diagnosed lactic acidosis and associated coma. What is the first medication that should be administered in this situation?

- A. 8.5% Sodium Bicarbonate drip
- B. 20-25 U of short-acting insulin IV (intravenous)
- C. 40-60 U of short-acting insulin SQ (subcutaneous)
- D. 50-10 ml of 40% glucose
- E. 400-500 ml of 5% glucose

Which of the following medications has the longest duration of action?

- A. Glibenclamide
- B. Gliquidone
- C. Repaglinide
- D. Metformin
- E. Gliclazide MR

Which of the anti-hypertensive agents listed below is the agent of choice for treatment of diabetic kidney disease?

- A. Rezerpin
- B. Adelphane
- C. Crystepin
- D. Haemiton
- E. Lisinopril

Patient developed thyrotoxic crisis. Which of the following medications should be used in this case?

- A. Methimazole 50-60 mg may be prescribed through a nasogastric tube (should be crushed first)
- B. 40-60 U of short-acting insulin SQ
- C. 40-60 ml of 40% glucose solution
- D. 8.5% Sodium Bicarbonate drip
- E. 400 ml of 0.9% of sodium chloride

Choose the anti helminth medicine, which does not influence the Nematode:

- A. Levamisole (Decaris)
- B. Phenasalum (Niclosamide)
- C. Mebendazole (Vermox)
- D. Pyrantel pamoate (Combantrin)
- E. Pyrvinium Embonate (Pyrvinium)

Choose the medicine, which is effective in case of cysticercosis:

- A. Albendazole
- B. Mebendazole
- C. Filixanum
- D. Aminoacrichinum
- E. Phenasalum

Which of the following medicines does not belong to the Fluoroquinolones:

- A. Ciprofloxacin
- B. Ofloxacin
- C. Norfloxacin
- D. Pefloxacin
- E. Oxacillin

To the side effects, which develop when using antibacterial medications belong all except:

- A. Angioneurotic swelling, eosinophilia
- B. Liver aminotransferase bilirubin normalisation
- C. Hives, photodermatitis
- D. Polyneuritis, pleksitis
- E. Glomerulonephritis, nephrotic syndrome

Which sulfanilamide medicine has the shortest period of action?

- A. Norsulfazolum
- B. Sulfazinum
- C. Sulfapyridazium



- D. Sulfadoxine
- E. Sulfadimethoxinum

Into the foetus blood and amniotic liquid penetrate in small amounts all the following antibiotics except:

- A. Laevomycetinum
- B. Tetracyclinum
- C. Cephalosporin
- D. Lincomycin
- E. Gentamicin

Which antibacterial medicine belongs to Aminoglycosides?

- A. Benzylpenicillin sodium salt
- B. Laevomycetinum
- C. Ceftriaxon
- D. Roxithromycin
- E. Gentamicin

A patient has slow running infectious endocarditis. Which succession of treatment tactics will be correct?

- A. Prescribing antibiotic
- B. Prescribing sulfanilamides
- C. Examining blood for hemoculture and defining the agent
- D. Examining blood for hemoculture and defining the agent and prescribing antibiotic
- E. Prescribing anti-inflammatory medicine and examining blood for hemoculture

A patient has type 2 sugar diabetes, third stage diabetic nephropathy, chronic pyelonephritis. Which antibacterial medicine will be correct in this case?

- A. Aminoglycosides
- B. Cephalosporins
- C. Sulfanilamides
- D. Polymyxins
- E. 8-oxiquinoline derivatives

Chose the antibiotic, which may be used only through inhalation:

- A. Gramicidium
- B. Bacitracin
- C. Spectinomycin
- D. Mupirocin
- E. Fusafungine

Chloramphenicol (Laevomycetinum) has influence on:

- A. Staphylococcus
- B. Corynebacterium
- C. Enterococcus
- D. Haemophilus influenzae b

E. *Pseudomonas aeruginosa*

Doxycycline has influence on:

- A. *Staphylococcus*
- B. *Chlamydia*
- C. *Enterococcus*
- D. *Haemophilus influenzae b*
- E. *Corynebacterium*

Mupirocin has influence on:

- A. *Chlamydia, mycoplasmas*
- B. *Staphylococcus, streptococcus*
- C. *Escherichia coli, proteus*
- D. *Gonococcus, meningococcus*
- E. *Clostridia, bacteroids*

To the combined sulfanilamide medicine do not belong:

- A. Co-trimoxazole
- B. Salazosulfapyridazinum
- C. Salazopyridazinum
- D. Sulfapyridazium

Chose the sulfanilamide medicine, which is used in case of pneumocistic pneumonia:

- A. Salazopyridazinum
- B. Co-trimoxazole
- C. Sulfadimethoxinum
- D. Sulfalene
- E. Norsulfazolum

Sensitive to sulfanilamides are:

- A. *Enterococcus, gardnerella*
- B. *Mycoplasmas, Chlamydia (except trachoma agents)*
- C. *Pseudomonas aeruginosa*
- D. *Staphylococcus, streptococcus*
- E. *Clostridia, bacteroids*

Chose the sulfanilamide medicine, which is used only for gastrointestinal infections:

- A. Aethazolum
- B. Phthalylsulfathiazole (Phthalazolum)
- C. Norsulfazolum
- D. Sulphamethoxazole
- E. Co-trimoxazole

Chose the sulfanilamide medicine, which is used for ureter infections:

- A. Sulfacylum

- B. Co-trimoxazole (Bactrim)
- C. Norsulfazolum
- D. Salazodimethoxintun
- E. Aethazolum

Chose the sulfanilamide medicine, which enters blood in high concentration and active mode:

- A. Sulfadimezinum
- B. Sulfazoxasol
- C. Sulfalene
- D. Sulfazinum
- E. Sulphamethoxazole

Chose the sulfanilamide medicine, which is used in case of pneumocistic pneumonia:

- A. Salazopyridazinum
- B. Co-trimoxazole
- C. Sulfadimethoxinum
- D. Sulfalene
- E. Norsulfazolum

Sensitive to sulfanilamides are:

- A. Enterococcus, gardnerella
- B. Mycoplasmas, Chlamydia (except trachoma agents)
- C. Pseudomonas aeruginosa
- D. Staphylococcus, streptococcus
- E. Clostridia, bacteroids

Chose the sulfanilamide medicine, which is used only for gastrointestinal infections:

- A. Aethazolum
- B. Phthalylsulfathiazole (Phthalazolum)
- C. Norsulfazolum
- D. Sulphamethoxazole
- E. Co-trimoxazole

Chose the sulfanilamide medicine, which is used for ureter infections:

- A. Sulfacylum
- B. Co-trimoxazole (Bactrim)
- C. Norsulfazolum
- D. Salazodimethoxintun
- E. Aethazolum

Which laxatives affect the large intestine?

- A. Fenolftaliin
- B. Cortex Frangula
- C. Senna alexandrina leaves
- D. Isapheninum
- E. Bisacodyl

Which laxatives affect the small intestine?

- A. Bisacodyl
- B. Oil vaseline
- C. Magnesium Sulphate
- D. Karlovy Vary salt
- E. Almond butter

In case of alcohol steatohepatitis the following medications are used except:

- A. Esenciale-H
- B. Glucocorticoids
- C. Ademetionine
- D. Ursodeoxycholic acid
- E. Vitamin medications

In case of toxic hepatitis, caused by paracetamol overdose, aetiologic therapy consists in:

- A. N-acetylcysteine
- B. Essential phospholipids
- C. Medications on sylimarine
- D. Glucocorticoids
- E. Vitamin medications

For treatment of excessive bacterial overgrowth in the small intestine syndrome are not used:

- A. Tetracycline
- B. Ampicillin
- C. Metronidazole
- D. Other antibacterial medicines of wide range
- E. Fermental medicines

Which group of medications is not used for treatment of ?

- A. Antibacterial medicines
- B. M-cholinoblockators
- C. Miotropic spasmolytics
- D. Motorics inhibitors
- E. Antidepressants

Which if the following medicines is effective for treatment of pseudomembranous colitis caused by antibiotics therapy?

- A. Sulfasalazine
- B. Loperamide
- C. Ciprofloxacinum
- D. Metronidazole
- E. Prednisolon

Name the most effective medication, which is used in complex treatment of severe pancreatitis:

- A. Octreotide (Sandostatin)
- B. Pirenzepine (gastrocepinum)
- C. Aprotinin ( Contrykal)
- D. Ranitidin
- E. Dexametason

To the medications, which depress the helicobacter infection belong all except:

- A. Bismuth subcitrate
- B. Metronidazolium
- C. Furazolidone
- D. Ranitidin
- E. Clarithromycin

To the antacids, absorbed by the gastrointestinal belongs:

- A. Aluminium hydroxide
- B. Sodium hydrocarbonate
- C. Calcium carbonate
- D. Magnesium carbonate
- E. "Maaloks"

Among blockators of H<sub>2</sub>-receptors the most side-effects has:

- A. Roxatidine
- B. Nizatidine
- C. Famotidinum
- D. Ranitidin
- E. Cimetidine

Choose the side effects of carbenoxolone, caused by its mineralocorticoid properties:

- A. Hypoglicemia
- B. Natrium and liquid holdback
- C. Swelling
- D. Arterial hypertension
- E. All mentioned

Which medication should be used in case of atonic constipations?

- A. Metoclopramide
- B. Domperidon
- C. Cisapride
- D. Prozerin
- E. Magnesium Sulphate

Which M-cholinobacter may be prescribed to a patient suffering from ulcer combined with glaucoma?

- A. *Pirenzepine*
- B. Methacinum
- C. Platyphylline
- D. Atropin
- E. Belladonna tincture

A patient has been diagnosed with chronic gastritis A and low secretory function. The use of which medication is pathogenetically proved?

- A. M-cholinoblockators
- B. Prokinetics
- C. Medications, which contain gastric juice elements

- D. Intestinal microflora normalisators
- E. Medications based on pancreatin

For blockators of H<sub>2</sub>-receptors all the following statements are true except:

- A. Lowering of basal and stimulated secretion of HCl
- B. Dependence of the main effect on the dose
- C. Higher efficiency in case of duodenal ulcer
- D. Substantial influence on gastric motorics
- E. Do not influence secretion of bicarbonates and slime

The average treatment dose of famotidin in case of ulcer disease is:

- A. 10 mg/day
- B. 20 mg/day
- C. 40 mg/day
- D. 60 mg/day
- E. 80 mg/day

Which medication is effective in case of nausea and vomiting of vestibular genesis?

- A. Metoclopramide
- B. Sulpiride
- C. Domperidon
- D. Granisetron
- E. Tropisetron

Which role does hemicelluloses included in "Festal" play?

- A. Splitting of plant fibers
- B. Protein splitting
- C. Fat splitting
- D. Carbohydrate splitting
- E. Potention of other ferments action